We claim

1. A compound of the formula 1

R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl or hydroxy-1-4C-alkyl,

is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, hydroxy-3-4-C-alkenyl, hydroxy-3-4C-alkinyl, halogen, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl, cyanomethyl, 1-4C-alkoxy, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino, 1-4C-alkylcarbonyl, 2-4C-alkenylcarbonyl, 2-4C-alkinylcarbonyl or the radical -CO-NR21R22,

where

R21 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and R22 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl, or where

R21 and R22 together and including the nitrogen atom to which they are attached form a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkoxy-1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, a imidazolyl, tetrazolyl or oxazolyl radical or the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl, or where

R31 and R32 together and including the nitrogen atom to which they are attached form a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4-, R5-, R6- and R7-substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothienyl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl, where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkylcarbonyl, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl, aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-

alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl,

R6 is hydrogen, 1-4C-alkyl or halogen and

R7 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

- A compound of the formula 1 as claimed in claim 1, in which
- R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkoxy-1-4C-alkyl or 1-4C-alkoxycarbonyl
- R2 is hydrogen, 1-4C-alkyl, halogen, 2-4C-alkenyl, 2-4C-alkynyl, hydroxy-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkoxycarbonyl or the radical -CO-NR21R22,

where

R21 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4-C-alkoxy-1-4C-alkyl, 1-4-C-alkyl, 1-4-C-

where

R31 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl, or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4-, R5-, R6- and R7- substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothienyl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl,

where R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl,

aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxycarbonylamino or sulfonyl, R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl,

R6 is hydrogen, 1-4C-alkyl or halogen and

R7 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl,

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

- 3. A compound of the formula 1 as claimed in claim 1, in which
- R1 is 1-4C-alkyl or 3-7C-cycloalkyl
- R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl, ···

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, or the radical - CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl, or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4-, R5-, R6- and R7- substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothienyl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkyl, alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl,

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aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-alkylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxycarbonylamino or sulfonyl, R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl, R6 is hydrogen, 1-4C-alkyl or halogen and R7 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

- A compound of the formula 1 as claimed in claim 1, in which
- R1 is 1-4C-alkyl,
- R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the radical -CO-NR21R22,

where

- R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl, R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,
- R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, or the radical CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4- and R5- substituted phenyl, pyrrolyl, furanyl (furyl), thiophenyl (thienyl) or pyridinyl, where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy or halogen,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11

wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

A compound of the formula 1 as claimed in claim 1, in which 5.

is 1-4C-alkyl, R1

is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the R2 radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

is the radical -CO-NR31R32, R3

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4- and R5- substituted phenyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy or halogen,

R5 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4Calkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

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6. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is phenyl,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

- 7. A compound of the formula 1 as claimed in claim 1, in which
- R1 is 1-4C-alkyl,
- R2 is 1-4C-alkyl, halogen or hydroxy-1-4C-alkyl,
- R3 is the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino radical.

Arom is phenyl,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts

8. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl,

R3 is the radical -CO-NR31R32,

where

R31 is 1-4C-alkyl,

R32 is 1-4C-alkyl,

Arom is phenyl,

PG is aryl-1-4C-alkyl or a radical SiR8R9R10

wherein

R8 is 1-7C-alkyl

R9 is 1-7C-alkyl

R10 is 1-7C-alkyl

where

aryl is phenyl

and its salts.

A process for the preparation of compounds of the formula 1, in which R1, R2, R3, Arom and PG
have the meanings as indicated in claim 1, which comprises an asymmetric reduction of
compounds of the formula 3,

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in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1.

- 10. A process as claimed in claim 7, which comprises an asymmetric catalytic hydrogenation of compounds of the formula 3, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1.
- 11. The use of compounds of the formula 1, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1, for the preparation of compounds of the formula 4 and their salts,

in which R1, R2, R3 and Arom have the meanings as indicated in claim 1.

12. The use of compounds of the formula 1, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1, for the preparation of compounds of the formula 5 and their salts,

in which R1, R2, R3 and Arom have the meanings as indicated in claim 1.